Layered Bowls

Jim McPhail shares his techniques for these turned gems that excel in showing off the beauty of wood.

By Jim McPhail

At the Utah Woodturning Symposium in June, Jim McPhail demonstrated to overflowing crowds. All eyes were focused on his process for showcasing wood. Although Jim doesn’t claim to have invented the technique he uses, we know of no other turners who have built a business around this process. Here is Jim’s story.

So what’s a layered bowl? Layered bowls are turned from stacked layers of a variety of woods in difference thicknesses. Segmented bowls are similar, but many of the segmented layers are turned from several species of wood to create a pattern. Layered bowls also differ from laminated bowls, which generally feature wood of the same thickness.

There is an endless variety of concepts and combinations within the layered bowl framework. For example, the bottom of a layered bowl can be a two-piece, book-matched layer; a layer may be created from several alternate laminations of veneer. Some favorite combinations are shown in the chart opposite.

Parts to a layered bowl

The basic layered bowl has a top and bottom layer, each often turned from the same wood species. The center layer is a contrast layer, often showing off color or figure interest.

For this article, Jim assembled a 1½x3½” bowl, above, from cocobolo, black ash burl, red palm, and veneer accents of black marfum and persimmon. The detail opposite locates each species.

Continued on page 6
PRESIDENT’S CORNER

Carole Magnuson

We are half way through this year and have a lot to do before the year-end wrap up and election of officers.

As you know, about half of our board transitions each year. We start now to put a board in place for next year. We know that all of you have enjoyed the results of the board’s work this year, but candidly, it takes continuous turnover of new enthusiastic members to keep the energy going.

Finding volunteers to take hold and take on responsibility is the hardest thing we do every year. So, you ask, what do we need? The very first think we need is a nominating committee and a chair for that committee. We would like 3-5 members on that committee to poll the membership and find new board members.

These are the spots that will have to be filled in 2011.

We have a membership count right around 250 people. It takes a core group of about 25 to run the club. It’s actually fun and rewarding. You meet terrific people and put on good meetings. You make friends, and even keep them, even though they sometimes don’t speak to you for weeks at a time. We learn lots of new things about our terrific hobby and hopefully, move the spirit of the club forward in a positive way. There, of course, are challenges, but I think the adventure is worth it.

Would you please consider serving? If you would like to be on the nominating committee or serve on the board, will you please let me know? If you would like to offer to demo next year, we would appreciate it.

We all know that we will be having to make a huge commitment to the AAW for the symposium next year, but that will go a lot easier if there is a strong board in place to take the reins. Please consider volunteering.

Another bit of news: The challenge for the picnic is anything “bar-b-que”. Use your imagination. Craft Supply gift certificates await the winners.

We look forward to hearing from you.

Carole
This is the story about how I got into turning, now believe me I am no writer so try to follow along as best you can.

I have been a hobbyist woodworker for many years, it scratched my itch just fine, it was rewarding, fun, exciting and did everything for me that I needed my hobby to do and I remember every time I saw a wood lathe it just reinforced my convictions that I would never own one as it was usually being demoed at some woodworking show. It was usually a shopsmith lathe used to turn a furniture leg with a duplicating attachment. It looked as boring as watching paint dry so I never gave them a 2nd glance.

Then sometime in 2002 Fine Woodworking magazine had a picture of a natural edged bowl and I stared at that bowl off and on for a week. Eventually I just had to try it. I was totally enamored with that bowl, I would catch myself staring at that picture, I was hooked like a fish and wanted a lathe and the sooner the better.

I searched the internet, found out Oneway was one of the better names for lathes, they just happened to be coming out with a new small lathe in my price range so I ordered one. Now keep in mind I had no idea about how to use it, plus knowing all tools and accessories I would need. I figured I would find all that out when the lathe showed up. I was sure it would come with an instruction manual that would tell all, well........not so much.

Oh......along the way I also talked my best friend Ken Schwartztenberg into ordering one also.

The lathe showed up one day, a neighbor had some old lathe tools from his grandfather. I stuck a 6” diameter 12” long branch of maple from my firewood pile on the lathe and stabbed at it with the tools. In hindsight these were homemade tools, probably could not have cut yourself with them if you wanted too. I quickly learned I needed some help or I was going to be the owner of an expensive white boat anchor and sooner or later one of these missiles was going to hit me.

Another internet search and I found a place called Craft Supply in Utah and they had a week long class in a couple weeks for beginners and so I called Ken and told him I had made airline, car rental, hotel, and weeklong class reservations for us and we leave in 2 weeks......as I remember he called me a few choice names but he eventually got over it.

Since 2002 I have been fortunate to have been to see most all of the worlds best woodturners, I have been to several symposiums, been to 3 other week long classes at Craft Supply and certainly back in 2002 I never dreamt it would turn into this disease called wood-turning that turned me into an owner of 4 lathes and more gidgets and gadgets than one person should need.

So where is this novel leading you ask? Well our past newsletter editor Jeff and our current editor George both say “no one reads the newsletter” so this will be a test.

“NATURAL EDGE BOWL HANDS-ON”

There will be a hands-on session at my shop in Fridley on Saturday June 26th from 8:30 until 4:30. There are several good places to eat around here or you can bring your own.

I think we should be able to get three small bowls done. Some requirements (rules).

1st, this is not for beginners, you must be able to successfully turn bowls completely on your own, and you must be able to sharpen your own tools successfully.

2nd Bring the appropriate tools and material.

These are the skills that set you apart from the beginner.
3rd, you must be a member in good standing of both the MWA and the AAW. There are NO EXCEPTIONS to these requirements.

Each participant will be required to have both MWA and AAW membership cards with them. They will be checked and without them you will be unable to participate. This is because of insurance requirements.

Eight people can be accommodated. I will show how I do natural edge bowls and perhaps you can show me some new things that will change my ways. An exchange of ideas?

In addition to the 8 intermediate/advanced turners, 2 beginners, or newbies can attend to watch, not turn. They also must also be members of both the MWA and AAW. They will be able to observe, ask questions and learn without getting in the way.

There will be no e-mail blast on this hands-on session, it’s only advertisement is here in the newsletter. Past hands-on session have filled within minutes of e-mail blast so it will be interesting to see what happens.

1st 8 people that qualify..... see the rules...and contact me by e-mail will be in.

Contact Bob at: 1woodworker@earthlink.net

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**Windsor Stool with Jim Van Hoven and Mike Siemsen**

Date: August 21st (you must turn your parts beforehand)
Cost: $90 for Minnesota Woodturners Association Members
Materials: $35

**Course description**

Build a 19” Windsor style shop (utility) stool. This is a great project for turners to exercise both spindle and faceplate skills. Each student will be furnished a full size drawing that will enable you to turn the seat, four legs, and three stretchers beforehand and at your convenience. The drawings will allow the turner to make the necessary story sticks to note the highlights of the piece and do the repetitive work. In the one day class we will teach you how to assemble your parts using the traditional tools and skills of the early Windsor chairmaker.

You will want to sign up well in advance of the class so you can have all of your parts turned and ready for assembly on August 21st.
For more information go to Mike’s web page at [www.schoolofwood.com](http://www.schoolofwood.com) or call Mike at 651-257-9166.
Some Tool Storage Ideas

Thanks to Jim Jacobs and Bob Jensen....if you have a tool storage idea or any other turning tip or trick take a pic and send it to me.
The side layers accent and separate the top and bottom from the center layer. Finally, the veneer layers further define the layers and add interest and detail to the bowl. The basic bowl may not need the side layers or may substitute multiple layers of veneer.

There are many options to make the center layer interesting:
- Highly figured burl, spalting, or other natural patterns.
- Grain figure based on how you orient the grain of the layer.
- Split center layer, creating a pattern.

Even-layered concepts
There is no limit to other concepts and combinations. If you make different colored layers with the same thickness of wood, you create a more formal, regimented design. Variations on even layered bowls include:
- Riff-sawn layers, a “basket-weave” pattern.
- Center layers of spalted wood, cut and re-glued with veneer layers. This reminds some shoppers of antique maps.
• Natural wood figure, cut and re-glued with veneer layers.
• Laminated layers of veneer.
• Even layers, creating a graduation from dark to light values.

**Bloodwood top and bottom; sequentially cut layers of honey locust. “I cut the center layers for this bowl with the pith as the center layer; the flame figure was just good luck.”**

**Holly top, African blackwood bottom; alternating layers of hard maple and black castello. “This is one of a series of black, white, and grey bowls.”**

**Cocobolo top and bottom; layers of red palm cut from three different boards. “I am always looking for wood colors and textures that will create a graduated effect.”**

**Sizes and shapes**

The complexity of the design and production of layered bowls goes up exponentially with the size of the bowl. I've found that textures and figures that look great on a 3”-diameter bowl may get completely lost in a 7”-diameter bowl. Most of my bowls are between 2½” and 5”.

Layers must be dry (stable) to ensure that you don't have a pile of wood rings a few years later. You'll need to sand flat and evenly thin (or thick) to ensure that they glue evenly and turn symmetrically.

You can consider bowls from two basic viewpoints: bowls viewed from the side and bowls viewed from the top—what I call “outside” bowls and “inside” bowls.

Outside bowls have thicker layers, which create bowls that are high enough that the elevation view is the most interesting. Inside bowls have thin layers, which create bowls that are flat enough that the plane view is the most interesting.

You can also find inspiration from other disciplines, such as pottery bowls.

The shape of the bowl often depends on the design concept you create when you choose woods and combinations of woods. A bowl with a great-looking bottom layer obviously needs to have a wide-bottomed shape to show off the figure. If you want a map bowl to look like a globe, you, of course, need to make a “half-round” bowl.
One way to develop shapes is to buy a tablet of quarter-inch scale graph paper as shown above. Draw a box showing the height and width of a bowl with a centerline drawn top to bottom. Then you can try a wide range of shapes on one side of the centerline; the ones you like can be completed by folding the graph paper on the centerline and tracing the side you’ve drawn onto the other side of the centerline. It’s a lot easier than trying a bunch of shapes on the lathe!

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**Shallow Bowl - Stepped Glue-up**

<table>
<thead>
<tr>
<th>Shallow bowl - 5 inch diameter by one inch high</th>
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<tbody>
<tr>
<td>Top layer: 1/2 x 5 x 5</td>
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<tr>
<td>Three layers of veneer</td>
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<tr>
<td>Center layer: 1/4 x 4 x 4</td>
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<td>Bottom layer: 1/2 x 3 x 3</td>
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<table>
<thead>
<tr>
<th>Shallow bowl - 5 inch diameter by 3/4 inch high</th>
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</thead>
<tbody>
<tr>
<td>Top layer: 1/4 x 5 x 5</td>
</tr>
<tr>
<td>Three layers of veneer</td>
</tr>
<tr>
<td>Center layer: 3/16 x 3 1/2 x 3 1/2</td>
</tr>
<tr>
<td>Bottom layer: 1/4 x 2 1/4 x 2 1/4</td>
</tr>
</tbody>
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**Resawing blanks**

When I get ready to resaw blanks, I rely on a standard #2 pencil—regardless of the thickness of the stock—to find the desired thickness. Here’s how.

As shown in the illustration directional, a standard #2 pencil will draw a line 1/8” above its base. Knowing this, you can make a set of marking blocks as shown above that will streamline the marking process.

—Jim McPhail

**Marking Blocks**

- Standard wood pencil: 1/8 inch
- Marking block
- Cut line: Marking block height + Pencil = Cut line height
  (Example: 3/16th inch block + pencil (1/8th inch) = 5/16th inch cut line height)
- Work piece
Cut and assemble
Once you’ve selected your layers and appearance, it’s time to cut, assemble, turn, and finish the pieces. Here are some tips to improve your results:

Bandsawing. If you’re going to do a lot of resawing, you will get a better result from a 3-teeth-per inch (tpi) blade at least ½” wide. I prefer a ¾” 3 tpi skip-tooth blade. Sanding. It’s important to sand the glue surfaces smooth and flat. I recently started using a Performax drum sander that has helped me sand faster and more accurately.

Gluing. I use cyanoacrylate (CA) glue for all my assembly and first coat of finish. A 13-layer, four-hour glue-and-clamp job with shop glue takes only about 30 minutes with CA glue. The CA fumes will make your eyes water, so use in a well-ventilated area.

Waste blocks. If you decide to turn a lot of bowls that are 7” or less in diameter, make up a set of waste blocks fitted to your chuck. (My blocks are made from 2×2” scrap blanks, 3” long.) When I have used a block to turn four or five bowls and the block is down to about 1” long, I glue a 2×2” plug onto the working end of the block in order to use it again.

Surface finishing. The steps to sand and finish the bowl include grits 180, 240, 320, and 400. Spread a thin coat of CA glue on the bowl surface after the 320-grit sanding. The thin CA will act as a sanding sealer and usually fills any thin gaps between layers.

Wipe on the glue with the lathe at about 200 to 300 rpm and immediately wipe off the excess with a soft cloth before the CA glue sets. Use additional coats of CA as needed for a final finish.
Finishing. A combination of CA as a sealer and Micro-Mesh as an abrasive/polishing agent are key factors in a really fine, touchable finish. Depending on the woods you incorporate in your bowl, you can either use the Micro-Mesh immediately after the CA or lightly sand the surface with 400 grit before using the Micro-Mesh.

Start with the coarsest Micro-Mesh grit, 1500. The amount of sanding residue on the sheet after each pass is an indication of when you need to proceed to the next grit. I use 1500, 2400, 3600, and 6000 grits, with 12000 used to polish the bowl after it’s been lacquered. Apply a single, thin, wet coat of lacquer on the bowl immediately after the Micro-Mesh to avoid dust or fingerprint oil from marring the surface. (I use Delt brand gloss lacquer in an aerosol can.)

Jim McPhail (JimMcPhail.com) is a member of the Southern Highland Craft Guild and is on the Board of Carolina Mountain Woodturners, AAW’s largest chapter. He lives in Fairview, North Carolina.

Sources

Wood. Cormark International (cormarkint.com) is a direct importer of African hardwoods at wholesale prices.

Veneer. Certainly Wood (certainlywood.com) stocks more than 100 varieties of veneers.

CA glue. ARGCO (argco.com; 877-747-4744) is a national supplier of plumbing materials. Argo sells CA in 1-pound or larger quantities. The activator comes in 15-oz. spray bottles. Contact Bruce Hallmark at 877-747-4744 or Bruce@argco.com. I prefer thick for adhering layers and thin for finishing.

Micro-Mesh Abrasive. Gamco Services (gamcoservices.com; 407-865-3484) is a metal-shop supplier that sells Micro-Mesh abrasives in 12x12” sheets at $10.10 each.

Thank-you to the American Association of Woodturners for allowing our use of this article
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**Briefs...**

The Minnesota State Fair is a great place to show your wood turnings. It is free and registrations is easy. Registration is done online at mnstatefair.org. Click on competition and follow the guidelines.

Tim Heil will be demonstrating Woodturning at the Wooden Boat Show in Grand Marais, MN. on June 18 and 19, 2010. Hours are 9:00 AM to 4:30 PM. More information available at northhouse.org. Everyone is welcome and it’s free.

The wood raffle is a great tradition for our club. It acts as a fund raiser plus it allows all of us to experience a variety of woods. When you select wood to bring for the raffle bring only the best. If it is cracked, or “puncky” put it in the fireplace. Bring the best wood you have and you can expect to get the best wood in return.

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**Treasurer’s Report**

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The professional Kip Christensen demonstration cost the club $606 to host. The club purchased 5 new Delta Mini lathes for $3,155. The club sold 7 old Jet mini lathes and an assortment of tools ($972) for a net cost for the new lathes of $2183. We continue to grow with 27 new members for 2010. The club purchased flow

ers for the two members involved in the April accident.

Pam Johnson, Treasurer

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June 2010