

Bill Berry Presentation at LC Woodworkers

The Lake Charles Woodworkers Club monthly meeting was hosted by Bubba Chermie this month in his shop in Lake Charles, LA. Our guest presenter was Bill Berry of the Gulf Coast Wood Turners Association. Bill has been woodworking for the past twelve years. He was originally from Lake Charles, LA and still has family there. After leaving the military, he moved to the Houston area and now lives in Deer Park, TX.

When he first started woodworking Bill focused on cabinet making but once he had a lathe, he didn't "turn" back. He does both turning professionally as well as teaches turning to those who want to learn the craft. Unique to his teaching: he goes to the student. The advantage of this is that students learn on their own equipment, not someone else's, so they are ready to start serious turning quickly.

If you are new to turning, especially plate turning (bowls, etc.), it's best to start with what he calls "academic" turning. In other words, turning to learn or turning for fun. This gives you lots of practice without the pressure of "making" something specific.

Bill likes turning green wood. Not only is this easier but it also produces somewhat less dust. He especially likes to turn sycamore, pecan, silver maple, gum, chinaberry, mesquite and even tallow. He generally avoids oak, cypress and cottonwood as being too stringy. You can certainly turn stringy woods but they take a very light touch and really sharp tools. And where does he get most of his wood? Off the curb. In fact, his list of preferred woods looks suspiciously like what grows around where he lives. It certainly makes sense to turn something destined for landfill into a useful and beautiful work of art.

You've probably noticed the sag of a power line between two poles. This shape is called a catenary curve. If you are hanging a cable, you want to know how much tension to place on the cable to keep it a certain distance above the ground. This is the most common use of a standard equation first described by Dutch physicist Christiaan Huygens in 1690 and the one that describes the curve of the St. Louis Arch. It is the curve a hanging flexible chain assumes when supported at both ends and acted upon by gravity. But looking at that curve another way, you can see that it is pleasing, that it would make a good shape for a bowl. It was from this perspective that Bill talked about bowl design.

Some shapes work and some do not and when you are planning a bowl, you should try to visualize its final shape. The way to do this is 'turning to learn' such as turning a sphere or a number of different bowls just to see their shapes and how they look. Bill demonstrated this with a simple jig on which he mounted a small chain to see how it would naturally sag at different widths. He also demonstrated the principle by having turned bowls of parabolic and hyperbolic curves and painting them black. This way, you can focus on the shape and not the wood. In fact, the jig is a great visualization tool, especially if hung at eye level above your lathe.

While Bill likes to get the tough part of turning behind him by turning wet wood, he turns many blanks to billets near final shape before putting them away to dry. Generally, he stores them in a craft paper grocery bag as this permits moisture to leave the wood in a controlled way. The key is to have a uniform thickness in the billet thus allowing the wood to dry as evenly as possible. In general, Bill turns the billet to about 10% of the final design. In other words, a 10 inch diameter bowl would have about 1 inch

thick walls as a billet. So how does he know when the blanks are ready to remount and get their final turning? He weighs them.

On the paper bag he writes the date cut (if known), the date turned to a billet and the weight. He then sets them aside, going back every week or so to weight them again. When the weight stops dropping, the billet is ready to turn to final form. He uses an ordinary electronic postal scale as they are accurate and low cost (about \$25 from many retailers). Once the billet has dried, it is remounted and shaped to its final form. You should expect some distortion in the dried billet and can expect to remove some run out when it is remounted.

For most bowls, Bill rough turns them and then coats the end grain with an end grain sealer such as Anchor Seal (a wax and water emulsion from a number of woodworking sources at about \$8 per quart). However, you can also use paraffin wax, PVA glue (reduced 10% with water) or even left over latex paint as these all work to control the out gassing of water from the wood. Coating the end grain is especially important for hollow form bowls, otherwise they may be impossible to remount and turn to the final shape if highly distorted.

As tool edges get dull with turning, Bill went next to his method of sharpening. He uses a 'slow' bench grinder (1,750 r.p.m.) with white grinding wheels. Before sharpening, he'll clean and true the wheel. Delta and other manufacturers make specialized grinding systems that provide a uniform and consistent sharpening result. However, with some practice and a little in the way of a tool rest, a bench grinder works well and is 2/3^{rds} less expensive than a dedicated sharpening system.

Bill started with a domestic pecan blank he had generally shaped using a band saw. His goal was to turn a natural edged bowl from this blank. He first mounted the blank between centers and started by shaping a foot which he would later use to remount the billet with a chuck. Using a 3/8" bowl gouge to hog off the bottom and sides of the billet, he went to a wide parting tool to refine the outside shape. When asked why he cut a tenon rather than a rebate for the chuck, Bill noted that his experience was that a rebate works best with dry wood whereas a tenon works better with wet. As he continued to refine the shape, Bill noted that the cutting edge of the tool should be just above the center line of the work regardless of the position of the tool rest.

He finished the outside of the bowl with a shear scraper using very light pressure and a slow speed to remove turning marks and reducing the need to sand. During the turning, Bill said that it is important to complete the turning of a natural edge wet bowl in one session because the stress relieved by cutting the wood will quickly cause distortion and be difficult to remount later. If you have to leave the work over night, tightly wrap the work in plastic to retain as much moisture as possible as this may reduce much of the distortion. He then removed the work and mounted the foot in a chuck.

Starting at the outside edge and moving in toward the center of the bowl is the best technique for natural edged work. The idea is to establish the wall thickness and get this area as smooth as possible as you can't easily come back to it later. Bill then worked down into the bottom of the bowl, changing to a curved shearing scrapper to round out the bottom and remove turning marks.

Bill next reversed the work using a Jacobs chuck holding a small sanding disk (i.e., a jam chuck) in the headstock and a 60° cup supporting the bottom at the tailstock. This allowed him to part off the tenon foot and make a slight cavity in the base. You want

the bowl's base slightly concave so that the bowl is supported by a rim. After removing the work, he used a small hand chisel to part off the remaining wood tip he couldn't remove while the piece was mounted.

Bill finished with finishes. He prefers a combination of a MinWax Natural (clear) oil coat, letting this dry overnight and final finishing with a wipe-on gloss polyurethane of several coats. He does all his finishing on the lathe. If you want a softer finish, he suggests using the gloss with a final burnishing with 0000 non-steel wool and a good paste wax. Using the gloss poly gives the work a harder and longer lasting finish. In effect, he is using the wipe-on ploy as you would a high friction finish. The result appears to be the same as a high friction finish but at a lower cost.

How do you price a bowl? Bill says what ever the market will bear, keeping in mind that galleries generally charge 40-50% commission. You can see more of his work at www.gulfcoastwoodturners.org and at www.lcwoodworkers.com.