



North Carolina **WOODTURNER**

Journal of the North Carolina Woodturners Association
A Chapter of the American Association of Woodturners

Volume 14, Number 4

April 2004



Ambrosia Maple
Bias Turned and Carved
by Ric Erkes

THE PRESIDENT'S MESSAGE

By Ron Mechling

Wow, what a program from John Lucas last month. I haven't tried inside out turning yet, however I took profuse notes on the photography instruction. Not only did my notes help, but also the handout really helped me get started. I purchased some items from Porter's (recommended by John) and have really been pleased with the results. I've still got a ways to go but at least I'm getting good photographs of my work ... consistently.

Thanks for all the help going through the old materials we had stored and for those of you who purchased the items we didn't want anymore. We also have a display we can use at shows or exhibits. We bought it for \$40, but it needs cleaning and a fresh coat of varnish or polyurethane. If you can assist in this project, please let me know.

The Charlotte Woodworking Show went well and thanks to the assistance of the Charlotte Woodturners we were able to cover Saturday and have two lathes available from Woodcraft. Jim Soder also brought his mini lathe.

Ric Erkes, our program chairman, is looking for an understudy to replace him in the future. Ric's a great teacher and will make this job easy for you. There are tremendous advantages to being program chairman, not the least of which is getting to personally know many woodturners throughout the country as well as overseas. If you have interest in this job for 2005, now is the time to contact Ric or me. First come, first served.

Bruce Whipple will serve as librarian in April, so be nice to him! Speaking of the library, Jack Freeman has volunteered to organize all of our treasures by topic, by author and by title. He may be doing the best service project for our club in 2004. I can't wait to find things more easily.

See you at 10:00 on April 10th. As usual the board members need to bring their lunch, as we will be having the board meeting at 12:00 noon.

Keep on turning, Ron

PROGRAM NOTES

By Ric Erkes

Still getting a catch off that bowl gouge? Well, it's time to take a lesson on 'catch free' turning. From north Georgia, Terry Daniel will be visiting us next month. Terry will take the time to explain how catches happen and how to avoid them. Terry is a professional turner who makes his living as a woodturning instructor, selling his bowls and the lathes to make them. He will be bringing one of his bowl lathes, a VB 36. He may even ask for a few volunteers to show off his techniques. Terry needs to make the most of his turning time, and will be bringing tips and jigs that help expedite the process. He'll also be demonstrating how he sharpens his various gouge profiles, and will discuss his oil finish technique. As you can see, it will be another full meeting with lots of new information. See you at 10:00 and bring your questions.



Read more about Terry and his work at www.thebowlmaker.com.

Coming Events

- 8 May Chris Stott - Boxes and Off-center pieces 10-4 (www.chris-stott.co.uk)
- 12 Jun. Steve Ainsworth - Vessel in a Vessel and Metal Spinning 10-4
- 10 Jul. Graeme Priddle (www.graemepriiddle.co.nz)
- 14 Aug. Frank Penta - platters...or something new...
- 11 Sep. Bart Castlebury - Turkey Calls 1-4
- 9 Oct. Don Geiger - Mastering the Side Ground Bowl Gouge 10-4
- 13 Nov. Dwight Hartsell - Surface Treatments 1-4
- December - Holiday Festival

Next Meeting: April 10th at 10:00 am

Demonstrator: Terry Daniel

Demonstration: Tips, Jigs, and Tool Control on a VB36 Bowl Lathe

KLINGSPOR'S
WOODWORKING SHOP
"Quality Tools and Supplies for the Woodworker"

**Meet at Klingspor's in Hickory, 856
21st Street Dr. SE (828-326-9663)**

Library News - by Mary Bachand

Ken and I will be away for the April meeting. We get to help our son celebrate his birthday and play with number 8 grandchild. In our absence, Bruce Whipple has again agreed to run the library. Please be kind to Bruce and let him try to watch the demo.

A large number of you checked out rentals in February and didn't return them to our March meeting. Please bring them to our April meeting or mail them to me. Remember that you will owe an extra month's rent.

Jack Freeman has volunteered to catalog the videos and books in our library, to make things easier to find!

Member News - by Mary Bachand

I am happy to report that we have outgrown our name tag box. In fact, I told our president Ron, who made our box, that he needed to make an addition. He is "thinking" about this nice "problem".

Please welcome the following new members--Joe Luther of Mt. Pleasant, NC and Bill Jonczyk of Blowing Rock, NC. Dick Mathias got 5 free raffle tickets for bring Bill. Welcome back Bud Wilson of Lancaster, SC and Don Jafvert of Hickory, NC. Back after an absence of several years is Dennis Yordy of Hickory, NC. We are happy to have all of them.

Newsletter Articles Wanted!!!

Send in your tips and how-to articles, book reviews and video reviews - let's try to make this a regular monthly feature for the newsletter!! Email your articles and pictures to john-uteck@carolina.rr.com, or mail it to me at the address shown on page 11. *Deadline for articles for the May 2004 newsletter is April 24.*

2004 Challenge Projects

Challenge winners will receive a gift certificate, and have a photo of their piece printed on the color pages of the newsletter.



March - Bias Turning
Challenge Winner
Ric Erkes

April Challenge Project- EGGS
(be creative, and try to beat the turners from Davidson!)

- May - Tools, Jigs, Etc.
- June - Texturing.
- July - Spheres.
- August - Captive Rings.
- September - Collaborative.
- October - Light Weight.
- November - Boxes.
- December - Snowmen.

2004 AAW Collaborative Challenge for the North Carolina Woodturners.



Call J.T. Barker at (828) 728-9406 if you are interested in participating in the Chapter Collaborative Challenge for display at the Eighteenth Annual Symposium, in Orlando, Florida. See the February 2004 Journal for details.

Want to learn something new about woodturning?

If you are interested in learning new skills, or improving the skills you have, contact one of these NCW members:

- John Winslett (Tryon, NC) - 828-859-9863.
- Dean Amos (Sandy Ridge, NC) - 336-871-2916.
- David Propst (Valdese, NC) - 828-437-4722.
- Ric Erkes (Davidson, NC) - 704-896-3302.
- David Kaylor (Davidson, NC) - 704-892-8554.
- Sam McDowell (Statesville, NC) - (704) 871-9801.
- Edgar Ingram (Statesville, NC) - 704-876-4576.
- Glenn Mace (Mocksville, NC) - 336-751-1001.
- Dick Nielson (Gastonia, NC) - 704-864-1742.
- Grant McRorie (Rutherfordton, NC) - 828-288-9572.
- Don Olsen (Lincolnton, NC) - 704 735-9335.
- Ron Mechling (Todd, NC) - (336) 385-1250.

... or see what's offered by one of these Woodturning Schools

Arrowmont School of Arts and Crafts, Gatlinburg, Tennessee, 865-436-5860 (www.arrowmont.org)

Ice House Center, Davidson, North Carolina, (704) 892-7323 (www.icehousecenter.org)

John C. Campbell Folk School, Brasstown, North Carolina, 1-800-FOLK SCH (www.folkschool.com)

February Demonstrator Review - by Jim Smith



In February, we were treated to an excellent pen turning demonstration by one of our own members, Greg Wilson. Greg has only been turning about three years, but in that time he has become quite a prolific pen turner. He has produced nearly 3,000 pens during that time. He began turning using a \$300 mini-lathe but currently uses a Oneway, model 1224 lathe.

Greg polled the audience and found that about one-third of the members had actually turned a

pen. He pointed out that the feature article in the Winter 2003 issue of American Woodturner was on pen turning. The article covered design as well as technique. Greg feels that one reason pen turning has become so popular is that you can see results very quickly. While a pen can be completed in well under an hour, Greg has taken as long as 15 hours to complete a pen. Another reason pen turning has become so popular is because the art has advanced beyond the simple kits, with multiple kits available, and finishes ranging from solid sterling silver to platinum to rose gold, to name a few.

Greg uses 3/4" blanks for most of his pens (cigar pen size), but has used 1" blanks, and some blanks as small as 7/16" when creating a slim-line pen. Greg turns close to 20 different styles of kits, including the cigar pens and various rollerball and fountain pens. Greg has used a wide variety of species of wood (over 100 different types), and even antler and acrylics.

Generally, before drilling, the blank is cut slightly longer than the tube. Greg places a line down one side of the blank so he can be sure to line the grain up properly when he places the blank on the lathe. At this point, if there is any variation, it is better to be slightly longer than too short. This would make for an improper fit or a gap between the two pieces when the pen has been turned, finished, and assembled. Again, concentration throughout the process is imperative for success as well as your safety. Greg suggests using a sled when cutting blanks to make this operation safer.

The blanks must be drilled prior to turning. This operation demands your utmost attention, and failure to concentrate can result in splitting out the blank. Greg felt that more blanks were split out during the drilling process than the actual turning operation. He drills the blanks using a high speed of around 2,100-2,200 rpm. He feels he gets a cleaner entry and exit hole. Also, you're in and out of the wood faster so it heats up the wood less and reduces the possibility of heat checking. It is important to clear the chips often, especially in the harder, oily exotic woods.

Hold the blank in a vise or wood clamp to drill the hole. You want to hold the blank snugly, but take care not to over tighten the vise. This is another function that people often do not pay sufficient attention to and the result can be a blown-



out or shattered blank. Greg suggests, for larger pens, leaving the blank a little longer (1/2" or so) than the finished size, and then cutting the blank only slightly longer than the tube to help avoid splitting out the ends. Greg emphasized safety during this operation and throughout the entire presentation.

The next step is to glue the brass tubes into the blanks. Greg uses flexible CA glue or polyurethane glue. Over time, the wood and the tubes may contract and expand at different rates, and with a hard glue and brittle wood, this can cause the pen to crack. First Greg cleans the tubes so that they are free of oil or dirt. He roughs them up with fine sand paper just enough to clean them off and to provide a better gripping surface for the glue.

At this time Greg offered a tip he uses that prevents headaches sometimes encountered in the gluing process. He uses modeling clay purchased at Michael's to keep the glue from getting inside the tubes as they are inserted into the blanks. He presses the clay out to about 1/16th of an inch thick and then presses the tubes down on the clay (much like a biscuit cutter). This leaves a little flat piece in the tubes and keeps glue from seeping in. Greg then coats the inside of the blanks with glue and inserts the clay end of the tube into the blank, twisting the tube as he inserts it. This insures that the glue is spread thoroughly and that there are no gaps. If glue is not pressed out the opposite end, then you haven't used enough glue. After the tubes are securely inside the blanks he then removes the clay.

Greg also offered some advice if you use polyurethane glue. Some people prefer it because it has the best flexibility properties, however it frequently takes 8-12 hours to thoroughly dry. He has found that blowing into the tubes help speed the drying process along. When preparing multiple blanks simultaneously using polyurethane glue, Greg will place a sheet of wax paper on his workbench. He then stands the freshly glued blanks on end, places a strip of wax paper on top and then lays a strip of wood on top. Otherwise, if left laying flat on the bench to dry and cure, you may wake up and find that the tubes have crept and are sticking 1/4" out the ends of the blank. Another option is to place a rubber band around the blank after you have inserted the tube to keep the tube from sliding out one end.

You want to make certain that the ends of the blanks are perpendicular to the lathe axis before placing them on the mandrel. Greg uses a pen mill on the drill press for this operation. With a jig that he designed, he places the blanks in the jig and it self-centers itself when the mill is lowered into the blank. He delicately touches the mill to the end of the blank just enough to barely show shiny brass all the way around the tube, and that there's a trimmed area of wood around the tube. Now he is certain that the ends of the blanks are perpendicular with the axis of the lathe. This is important because if they aren't, then the pen will not fit properly and a gap may show.



Before placing the blanks on the mandrel, you want to insure that the mandrel is straight so that you don't end up with an oval shaped pen. Greg held a pencil on the tool rest and very gently brought it forward until it barely made contact with the mandrel. If the line does not go all the way around the circumference, then the mandrel is not straight.

The method for matching up the turned wood to the metal components of the pen is by the use of bushings. Different type pens require different sizes of bushings. Make sure the bushings are on the mandrel in the proper order or the components will not fit. Greg prefers the mandrel from Berea Hardwood in Ohio because they are the largest, the bushings and tubes fit snugly, and the larger diameter helps prevent the mandrel from whipping. Greg handles the mandrel as little as possible to prevent pressure on it. When screwing the nut onto the end of the mandrel, he advises that you hold the nut in place and thread it on by turning the hand wheel. The reason for making sure the mandrel is as straight as possible is that even a few thousandths of an inch will result in a lesser-quality pen. Additionally, do not over tighten the nut as this would put undue pressure on the mandrel – just tighten enough to hold the wood so it won't turn in your hand on the mandrel. Then bring up the tailstock to the mandrel to stabilize it and provide support. Be very careful here not to apply too much pressure and bend the mandrel.

Greg suggests you place the nib end (point) closest to the headstock. Greg always uses this setup because this area is the most critical of the pen so you want as much control as possible at this location. This is where people will be coming in contact with the pen most and if the wood and tip are not flush and have a smooth transition, it will be very noticeable to the touch. Greg currently prefers olive wood. It has a pleasant fragrance as you turn it, and it has become his best seller.

Greg typically turns his pens at around 2,000 RPM. Since the blanks are so small you can pretty much use whatever speed you're comfortable with. After improving technique at a slower speed, you can then speed things up.



Greg's favorite tool is the skew. He has put a little curve on his grind because when he is finished turning there is little sanding involved. As you cut a pen it will typically have a slight taper. This taper needs to be kept consistent and Greg feels he has better control with the skew.

He uses the skew in a shearing manner to obtain those silky smooth cuts that need little sanding. He feels the quicker he can obtain the profile, the easier it is to maintain that shape. He also uses a spindle gouge with a fingernail profile, and he may use a small roughing gouge at times. He uses a square scraper, but that is primarily in the CA finishing process.

Another great tip from Greg – if you feel vibration on each side of the bushings, either your bushings have been sanded on one side, are not fitted square on the mandrel, or the mandrel is not running true. In any case, once again, you're not going to get a good fit on each end.

With most pens, Greg feels that shape at the clip end (tailstock end) is the least critical part of the pen. The center section is also critical. On the pen Greg was turning at the meeting, that center portion of the pen was flat on both sides – flat wood and flat metal – so it had to match up perfectly. Greg leaves just a slight rise in the wood because he will sand it down. If you turn it exactly even with the bushing there is no room for sanding. This is something he feels just comes with experience. Greg pointed out that all kits are not created equal. They may all be sold as 7mm kits, but the

bushings are not interchangeable. Some will not slide over the end of the mandrel at all while others will slip right on but provide a sloppy fit which converts into a sloppy looking pen.

Discussing sanding speed, Greg has tried fast speed sanding and slow speed sanding and he came to the conclusion that the speed really doesn't matter that much. However, he pointed out that when using soft or oily wood, the paper clogs up more easily at faster speeds so he will sand them slower to avoid excessive clogging. Greg's goal is to begin sanding with 320 or 400 grit paper. See, I told you he gets silky smooth cuts with that skew.

Greg sands with the lathe on initially with a light touch. He then turns the lathe off and sands along the lathe axis. By sanding in this manner he insures that he removes all the concentric circles that are so common when hand sanding on the lathe. The eye cannot see a very fine scratch running lengthwise on the pen nearly as easily as it will notice the concentric circles. Once they have all disappeared he goes on to the next grit and continues in the same on-then-off manner until he goes through all the grits. Care must be taken not to get the sandpaper on the bushings. Greg likes to wrap the paper around the barrel to prevent flat spots in the wood. He sands from the bottom side of his work so that the top is visible and he can tell when the circles have been cleared. He usually sands through 600 grit, but will go all the way through Micro-Mesh 12,000 for a gallery piece. The number does not really correspond to grit, but 12,000 mesh is comparable to 2,500 grit.

Greg shared his thoughts on style of pens. Where style is concerned, Greg maintains a traditional view of what he looks for in a pen. He likes the European style similar to a Mont Blanc. He has found that the really ornate pens are not what the public is really looking for. Nor does he turn beads, coves or other embellishments on his pens. He likes to keep the design simple, which keeps them elegant. This concluded the turning portion of the demonstration. Please refer to last month's newsletter for a detailed guide to finishing with CA glue.



Greg painstakingly took us through all the steps of pen turning, pausing to answer all questions along the way. He gave us an excellent, detailed, interesting and informative demonstration. I truly hope that I have captured all the essentials in order that this article can be followed along as each of you successfully turn a pen of your own. And the next time someone asks the group how many have ever turned a pen, a lot more hands will go up. I have purchased my mandrel and am rearing to go. Thanks again to Greg for a great demonstration and lesson on pen turning.



March Demonstrator Review

From Lathe to Gallery by John Richards

John Lucas came to us from Tennessee Tech University as a professional photographer and woodturner. His demonstration included four main parts: practice exercises on a limb, inside-out turning, the hand mirror, and photographing your work. Within each section of the demonstration, John provided excellent instruction and information.

Practice Exercises. John got warmed up on a limb to do some simple beads and coves. To rough out the piece he used an impulse method with the roughing gouge. This consisted of a few blows with the roughing gouge to get rid of most of the material and then a smoothing pass to clean it up. John felt this method was quicker in removing excess material to get the blank round. Once the blank was fairly round John used the wings of the roughing gouge like a skew to give a nice finish cut.

To begin the beads John used the skew, every woodturner's favorite tool, to cut the Vs. While using the skew, he appeared to be using the tool upside down with the longer point on the bottom. John explained that the skew is simply a chisel and both the heel and toe are usable portions of the tool. Once the sections of Vs were cut John used the spindle gouge to cut the beads. John uses a spindle gouge that is fingernail ground with very deep swept back wings. He additionally grinds more material off the tip to make the tip thinner so he can get in tighter. After doing a few beads with the spindle gouge John demonstrated using the skew to cut the beads. No matter what the tool being used John uses his body to make the cut.

Once he was finished with the beads he turned every other bead into a cove. To cut the coves he used the spindle gouge and did a scooping action. He explained the importance of cutting from top to bottom to avoid a catch.

After the beads and coves were cut John did a couple last exercises with the skew to work on his tool control. For the first tool control exercise John cut a ridge with two parallel surfaces. He continued to do this ridge thinner and thinner until it broke. The thinner the wood the better the tool control. The last tool control exercise was cutting a deep shallow cove with the skew. This profile can't be done with any other tool. John explained the importance of the tool orientation to avoid a catch and demonstrated the slight sweeping action required to make this cut.

Inside-Out Turning. John explained that in inside out turning you are turning the outside of the piece while it is on the outside. To demonstrate this method of turning, he turned a round ornament with a heart shaped opening.

He begins with 4 perfectly square pieces of stock. It is important for them to be perfectly square or else the piece won't come together properly. He typically uses his table saw to make the blanks. It could be done with a planer and jointer, but the table saw is



faster if you have a proper setup. To glue the blocks up, for turning the inside, John has used a paper glue joint, strapping tape, screws, and CA glue with accelerator. His favorite method by far is the paper glue joint. It is easy to break apart when he is ready to turn the outside and there is a low risk of the pieces coming apart while turning. He numbers the blanks and cuts the corners, when glued up for the inside turning, to ensure he puts it together properly for the outside turning.

Since the symmetry of the piece depends on the alignment of the blank within the lathe John emphasized the need to align the blank. He mounts the blank and checks by checking the gap between the piece and tool rest for all 4 corners. If the gap remains consistent the blank is mounted in the lathe properly. For stock support he uses a live center without a point for alignment adjustment. To drive the piece he uses a Stronghold chuck.

To begin turning the inside, John removes material until the flat spot is just gone on the in the area where the shape will be turned. It is important to only remove material from the desired area. Removing material from other areas will result in gaps within the piece. While turning the heart John used a template to verify the shape. For a turner just beginning inside out turning John suggested simple shapes like crosses or simple opening. The heart requires undercutting, which can be challenging and require custom tools.

One common problem with inside-out turning is relieved stress in the material. The once square blanks will tend to no longer be square after the inside is turned. John alleviates this issue by gluing blank halves together, sanding the interfacing side, and gluing them up. This gives a cleaner glue line. Once glued together John turned the outside shape of the piece. With inside-out turning it is important to stop and observe what the outside shaping is doing to the inside shape. Too much material removed from the wrong area could ruin the inside turning. Once the outside was turned, John used a #66 drill bit in a Dremel to drill the hole for the hook. He uses Eagle claw fish hooks, ear ring bobs, and



deck railing pins for the hooks. His favorite hook is the deck railing pins from Micromart Tools glued in place with a drop of CA glue.

The beauty of inside-out turning is the fact that you have access to the inside. John urged fellow turners, do something with the inside. One common thing to do is insert something, such as a ball, into the center for interest. John has done this type of thing with a glass milk bottle and is currently working on turning around an oil can.

The Hand Mirror. John began his hand mirror turning demo by turning the mirror. He used his 4 jaw chuck and a square glue block. When facing the blank John works from the center out to avoid tear out. When cutting the recess for the mirror John stressed the need to undercut the opening slightly so the wood has room to expand and contract around the mirror. He mentioned he had a hand mirror returned due to problem caused by contraction. Once the mirror bank was faced he turned the corners off the square glue block and faced it so it would fit the mirror recess perfectly to ensure concentricity. It needs to be square so when John goes to remove the mirror from the block with a chisel he has access to the glue line.



An interesting subject during the facing operation was tool rest position. Woodturners are traditionally taught to place the toolrest at or slightly above center. While rolling the bead of the mirror John paced the tool rest well above center line (2-3 inches). He explained that sometimes extreme toolrest positions can make some operations safer and easier to do.

John turned the handle as a typical spindle turning, starting with the roughing gouge and moving to the skew. While turning John was asked how he sharpens his skews and his answer was diamond hones. He used his finger to steady the piece as it was being turned down to a smaller diameter. Supporting the piece helps avoid chatter. John explained, once the handle is completed, he uses a drill press with a V-block to drill the hole for the handle's tenon. When determining where to drill the hole for the handle John looks at the mirror to find the best look for the piece. He typically aligns the handle with the grain of the mirror, but has made mirrors with the handle perpendicular to the mirror's grain. To finish the piece lacquer that is thinned 50% with lacquer thinner is applied in 2 coats by hand. To secure the mirror in place he uses Silicon adhesive.

Photographing Your Work. John supplied a wealth of information on the subject of photographing your artwork.

So much, it was difficult to capture it all in a write up. Readers are urged to watch the video to see the progression John goes through for photographing art pieces.

John took a few pieces that were present at the meeting and demonstrated how to get the best photo possible. He used a digital EOS camera, on a tripod, which was tied into the TV system. This system of showing the still on the televisions was very effective in all allowing all the viewers to see the results of each setup for themselves.

The main setup was a simple yet effective light tent composed of a few PVC frames with white fabric shears and an 18% grey background (www.porters.com). He said the total cost was around \$100. He expressed the need to use a neutral background that does not draw attention away from the piece (wrinkled bed sheet).

For lighting he used a pair of halogen work lights with shades as the light source and demonstrated the effect of their placement and angle on the overall lighting affect of the piece. One halogen light was on a custom made fixed base and the other was on a custom made boom. He used additional light diffusers and mirrors to demonstrate how to get rid of bright spots and shadows. John suggested using an 80A filter with daylight or tungsten film for indoor photography when using the quartz light sources. For outdoor lighting he suggested using the same 80-A filter with daylight film.



When photographing John explained you need to focus the camera 1/3 of the way back on the piece with a lens that has a focal length of 70 to 200mm. The piece should be centered and the lights should be place to give even natural lighting without bright spots or excess shade. The blinders on the halogen light sources allow John to close off the light source to avoid shinning through onto the background.

John's demonstration was truly informative. It is very tough to fully capture the photography and turning knowledge that John shared with us. He definitely shed a lot of light on these subjects.



Inside Out Turning - by John Lucas

Inside-out turning is a process where you take 4 pieces of square timber, glue them together, and turn a design (usually a silhouette) into the part that will be the inside of the piece. Then take this apart, rotate the pieces, glue them back together, and turn the outside. This is why it's called inside-out turning. Even the description is confusing. Explaining this is going to be difficult. There are a huge number of possibilities with this process. It reminds me of the way that Stephen Hogbin must have felt the first time he cut up a turning and reassembled it. (I prefer to blow my pieces apart, it's much faster.) I will try to describe the process of inside-out turning and hopefully stop you from making some of the errors that I have made. I learned most of what I know by trial and error, error, error. I listed my sources of information at the end of this article.

The Process. Start by cutting 4 pieces of wood equal to the length of your turning. Each piece must be perfectly square. This is important because you will have gaps in the turning if they are not square. I generally cut 4 separate pieces from a flat board but if you want the grain to match it is possible to re-saw a piece of thick timber and square up each piece. The grain won't match perfectly but will be close. Since there is a learning curve to this style of tuning, I recommend turning some 2x2 scrap as experiments. I use pine 2x4's for practice. Fig 1.

Because you are turning the inside first, the outside shape will be limited. It is important to make a few trial runs so you can learn to see the problems. For practice pieces, I use strapping or filament tape to hold the wood together. This makes it easy to pull the tape back and reassemble the piece to check your progress. Start with simple shapes, such as diamonds, circles, crosses, etc. Shapes such as hearts and flowers require you to undercut the turning when doing the silhouette. This is difficult to turn and to judge the shape.

Gluing the piece. To turn the inside, glue the 4 pieces together with a glue that can be separated. I have used CA glue, paper joints, strapping or filament tape, plastic tie wraps and hose clamps to hold the pieces together for the first turning. I prefer

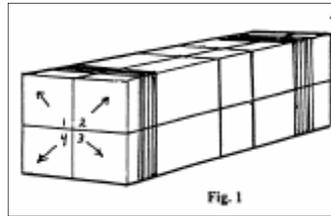


Fig. 1

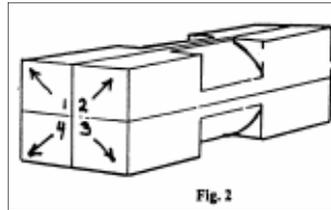


Fig. 2

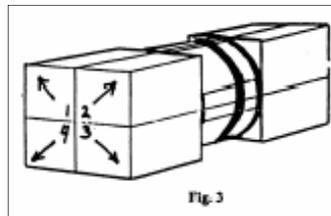


Fig. 3

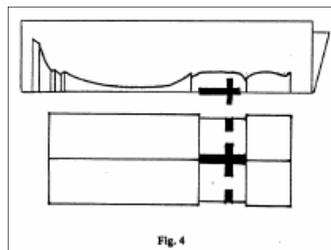


Fig. 4

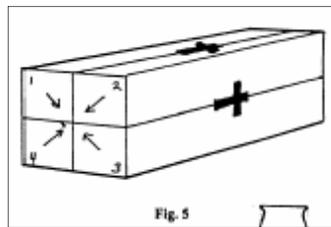


Fig. 5

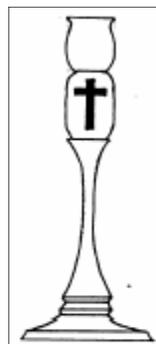


Fig. 6

Base of Candlestick is turned separately

a paper joint. It is more secure and keeps the wood aligned properly. The space created by the glue will show up as a space in your silhouette so it is important to have a very thin line. I use newspaper for my paper joint. This creates a good bond and a thin line. Tape, tie-wraps, hose clamps and rubber bands all work well as "clamps" to glue the work but have drawbacks if they are used instead of glue.

Centering. Centering is very important, so I take a very small sliver of wood (about 1/8 inch) off each corner of the square stock before I glue or clamp them together. After you get them together the 4 "knocked off" corners make an accurate hole to align the center pin of your drive and tailstock centers. Label the end of each block so you will know how to reverse them later. I stack the wood together to find out which side should be out for the best grain pattern and then label the end with numbers and an arrow pointing toward the center. Turn them 180 degrees so the good side is in and glue them together with a paper joint. Spread glue on the piece and place newspaper over the glue. Clamp the pieces together and let it sit. It will take longer to dry than the glue normally requires, so be patient. Use a cup center of some kind on the tailstock so you won't split the piece. I also use a fairly large drive center so the teeth help hold the 4 sides together. Long cones in the center of drive and tail centers will act like a wedge and split the paper joint.

Draw the design full size. I find it very difficult to accurately copy the silhouette without a drawing. After you complete the drawing fold it in half and cut out half of the silhouette. When the drawing is folded in half the cut out silhouette will stick out and make a perfect template to check your turning. You will also have a guide for the outside turning. Just because you can draw it on paper doesn't mean it will work in the final turning. The outside shape is dependant upon the inside. Make a test piece to check your design. Rough out the silhouette. I mark the edges of the design on the square block. Fig 1.

Rough out only the area where you will place your silhouette. Don't round the piece down to a cylinder. Leave small flats on all 4 sides. 1/8" to 3/8" is fine. If you round it down to a cylinder there will be a thin line running through the piece that destroys the effect of the silhouette. Mark lines all the way

around the square at the edges of the silhouette and then use the toe of the skew to cut a large “V” cut on the inside of this line. This keeps me from tearing off a corner. I start the “V” on the inside of the mark and work my way back to the line with small cuts by sighting down the bevel of the tool. Then I use a bowl gouge or skew to rough out the cylinder leaving the 4 flat areas. Fig 2

The outside corners will be the center of the piece when it is reversed and re-glued. If you round these off you can't have a thin stem like the one in my candlestick drawing. However if you are making a lamp you could knock off the corners about 3/16" and there will be a 3/8" hole down the center for the cord. I told you this process has a lot of options.

Silhouette. Now you are ready to cut the silhouette. Cut very carefully and check your progress often. Stop the lathe and place the folded drawing on the flat side to see how the cut out portion fits in your turning. Check often and cut very carefully, it's very difficult to sand the inside of the silhouette. I end up using custom made scraping tools a lot. They are easy to make. I use drill rod, old screwdrivers, and old allen wrenches. They can be ground to any shape fairly quickly. I don't even bother to harden them unless I know it's a tool I'll use a lot. Fig 3- Fig 4.

Re-Glue. When you have finished the silhouette, remove the work from the lathe and split the pieces apart. I use a 1" chisel. It should pop right apart. If it fights you or looks like the thin areas near the silhouette will break, I drive a paring knife down the joint until it pops apart. Rotate each piece 180 degrees and then glue them back together. Don't get any more glue than necessary on the edges near the silhouette. Fig 5.

It will be difficult to clean off the squeeze out on the inside of the turning. Trust me on this. If your pieces were not perfectly square you may have to glue up 2 pieces and then flatten one side before you glue up the others. This will affect the shape of your silhouette so take off as little as possible. If they were perfectly square simply clamp them together with the silhouette aligned and wait for the glue to dry.

Turning the outside. Turning the outside is fairly straightforward. Stop the lathe frequently and check the wall thickness around the silhouette. Fig. 6

It can be difficult to see and will “blow up” if you get it too thin. I am still learning about the shapes that will work together on the inside and outside. In the beginning you should be prepared to change the shape of the outside to accommodate the wall thickness. Once you have made a few you will have a better understanding of the process. I suggest starting with something simple like a circle or a cross. Cut several circle or cross silhouettes in a long piece of scrap material and then play with the outside shapes to

see what happens to the wall thickness and the shape of the silhouette.

I've had a lot of fun doing this style of turning and hope you will also. There are a lot of options. You can rotate each piece 90 degrees and turn the combination 4 times. This method turns 4 pieces that are off center but exactly alike. You can paint, carve, or burn the inside before the reassembly. Use your imagination and have fun. Fig 2 and 3

Important Tips for Inside-Out Turning

1. Let paper joints dry longer than normal
2. Cut Small notches in the corner to help center the piece
3. Use center with small points to keep from splitting the piece
4. Be sparing with the glue when it's difficult or impossible to clean up the inside.
5. Be sure to sand and finish the inside before re gluing
6. Glue 2 sides then flatten these and glue the pairs together
7. Leave 4 flats on silhouette portion of turning
8. Evaluate shape of the non-silhouette portion and make a decision on it's design
9. Centering is essential for final turning, be prepared to move the centers

Inside-Out Turning Resources

Better Homes and Gardens
Wood-Turning techniques
Pg.62 split turned vase

Woodturning Magazine
Vo. No. 45 Pg. 52
Inside-out vase

Woodturning Methods
Mike Darlow
Pg. 118 Inside-out Turning

The best from Woodturning Magazine
Faceplate Turning
Pg. 66 turning inside-out platters

The best from Woodturning Magazine
Spindle Turning
Pg. 85 inside-out Christmas ornament

The best from Woodturning Magazine
Useful techniques for woodturning
Pg. 94 Involute Turning-90 degree turning

American Woodturner
AAW project Book
Pg. 52 inside-out Christmas ornament

Turning a Mirror - by John Lucas

Body

1. Screw waste block to the faceplate.
2. Face off waste block- drill 3/8 hole in center.
3. Make waste block 3" square- drill 3/8 hole in center.
4. Mark mirror blank with diagonals.
5. Align waste block with marks on mirror using 3/8" drill and glue with CA glue.
6. Glue mirror assembly to faceplate with 3/8 dowel for alignment.
7. Turn mirror opening 4 1/16 then undercut lower portion for wood expansion.
8. Turn outer portion of mirror-Sand this side. Leave it thick enough for the 3/8" tenon on the handle.
9. Chisel off waste block between mirror and block.
10. Face off the square waste block.
11. Turn corners of waste block to exactly fit mirror opening.
12. CA glue mirror to blank- make sure flat side is on long grain side of mirror.
13. Turn outside of mirror- sand this side.
14. Chisel block from mirror

Handle

1. Start with 3/4 x 10" blank mounted between centers
2. Mark off tenon and design elements. These should be 8" apart.
3. Turn 3/8" tenon.
4. Turn handle working from center toward the ends.
5. Turn design elements.
6. Sand.
7. Turn handle bottom and cut off at tailstock end.

Assembly

1. Drill mirror blank with 3/8" drill using "V" shaped guide to hold mirror.
2. Cut handle tenon a little shorter than the depth of the hole in the mirror.
3. Glue handle to mirror using epoxy. Wipe up excess with acetone.

Photographing your Art Work - by John Lucas

Camera Choice. A 35mm camera with manual shutter and aperture is the best choice. Automatic exposure with plus or minus bias may work. Interchangeable lenses would also help. Use a longer focal length lens such as 70 to 200mm. You will need close focusing capability or close up filters if your work is small. Use a tripod and cable release to get sharp properly framed pictures.

Location. Outdoor-open shade such as a covered porch. Use diffusers to soften the light and reflectors to fill in the shadows. Use an 81A filter to get rid of the blue cast. Use daylight film.

Use a 35 mm camera with manual shutter and aperture. Automatic exposure with plus or minus Outdoor-direct light Use diffusers to soften the light and reflectors to redirect the sunlight at the angle you like. You may need another reflector to fill in the shadow area. No filter is needed. Use daylight film.

Indoor Use Tungsten balanced lights photofloods or quartz halogen lamps. Use tungsten film or daylight film with an 80A filter. If you use Blue photo floods use Daylight film without a filter. DHZ lamps are color correct replacements for the inexpensive quartz lights.

Point of View. Low angle shows shape, form and foot details. A low angle makes the piece look taller. A high angle shows lip detail and bowl shape but will make the piece look shorter. For juried shows try to show all pieces from approximately the same point of view.

Depth of Field. Use a small aperture. F8 or f11 for candlesticks and narrow vases. F16 or f22 for bowls and platters. If you use close up filters use at least f8.

Lights. Use blue photofloods for daylight film. Use white photo floods for tungsten film. Use white photo floods for daylight film with an 80A filter. For quartz lights use the tungsten film or daylight film with an 80A filter.

Light Modifiers. Large diffusers make softer shadows and large highlights. These are good for matte and semi-matte surfaces. They will soften the shadows under bowls. Small reflectors produce strong shadows and small highlights. These are good for showing texture and reducing the size of the highlight spot on glossy surfaces.

Backgrounds. Do not use a bedsheet. The background should be smooth and clean. A good background doesn't take your eye off the piece. For juried slides use white, gray, or black. For advertising use a color that compliments the piece and catches the eye. Seamless photo paper is the most common.

Metering. If the background is gray and the piece is neutral you may get by with the camera meter. A Kodak 18% gray card will help or use a hand held meter with an incident dome. It is advisable to bracket your exposures so you can choose the best one later.

Reciprocity Failure. Film does not respond to light the same way for long exposures as it does for short exposures. For this reason you should over expose the film when shooting for 1 second or longer. A good starting point is to double the exposure time and then bracket to make sure you get the best exposure.

Problems. Please feel free to call Tennessee Tech University photo services at 931-372-3305 if you have a problem. There is usually someone there who can answer your questions. I can be reached at 931-525-6400 or 931-397-1746 cell phone. jlucas@tntech.edu

MARCH GALLERY

Photos by George Wunker



Cherry

Jim Falowski



Norfolk Pine

David Kaylor



Maple

Ron Mechling



Bradford Pear

David Kaylor

Classifieds - put your free classified ad in the newsletter. Send details to the editor.

For Sale: 1hp SECO Dust Collector, 4" inlet; plastic dust separator; 21 gal. Garbage can (fits separator for a 2-stage system). \$100. Contact Joe Luther at 704-436-8720, Mt. Pleasant, NC.



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MARCH GALLERY

Photos by George Wunker

Maple



Edgar Ingram

Elm



Don Hildebran

Cedar



Unkown Artist

Cherry



Ron Mechling

various



Jim Falowski



Clarence Cogdell

Remember, our meetings are always at 1:00 on the second Saturday of the month at Klingspor's Woodworking Shop in Hickory unless otherwise noted in the Journal.

NEXT MEETING: April 10th at 10:00 am