Turning Winged Vessels

by Lynne Yamaguchi (© 2006, 2019; www.lynneyamaguchi.com)

Tools

- Bowl gouge with a shortened bevel (Stuart Batty says 40°, "the angle of beavers' teeth," is "nature's perfect angle for cutting wood")
- Negative-rake scraper: 40–70°, straight or round end (basically a scraper ground on top and bottom)

Basic technique

1. Mount the wood with the grain oriented perpendicular to the lathe axis (side grain).
   Mounting a square or rectangular block: Drill a hole in the top center of the blank and mount the blank on a screw chuck. Alternatively, hold the blank between a closed chuck and the tailstock (top facing the tailstock) to cut a recess or an inset tenon in what will be the top of the bowl. Make the recess small enough or the tenon wide enough to accommodate the diameter of the planned finished bowl. Reverse the block and mount it in the chuck, either expanding in the recess or contracting on the inset tenon.
   Mounting a half-log or irregular blank: Mount between centers, adjusting the position of the wood between the centers for balance and a good top surface.
2. Hog away wood by facing off the side grain, leaving the core that will become the bowl. Specifically, set the tool rest parallel to the face of the wood. Hold the gouge with the wing parallel to the face of the wood and the flute up, rotate counterclockwise till you find the cut, then move forward and backward across the face or simply cut toward the headstock, taking bites the width of the wing.
3. Cut a tenon on the tailstock end to fit your chuck; you'll use this to later reverse the bowl and hollow it.
4. For a flat bottom surface on the "wing" of the bowl, cut straight in with the flute facing away from the wood, the bevel perpendicular to the lathe axis, the tool rest parallel to the surface you are cutting, and your left foot forward; lean in to complete the cut. Adjust the tool rest so that it is parallel to the surface you want to end up with, and cut straight along the tool rest. Keep the bevel short to avoid leaving tool marks.

   An alternative method is to rotate the gouge till the flute is almost closed and scrape the wood with the wing of the gouge, pulling the gouge from the center toward you.

   Use the negative-rake scraper flat on the tool rest to clean up any remaining tool marks or inconsistencies in the curve or line of the wing.
5. Shape the exterior of the bowl except for the tenon you will use to reverse the piece. Keep the intersection of the flat surface and the bowl (the shoulder of the tenon) crisp.
6. Reverse the bowl in the chuck.

7. When cutting the top flat surface, mark with a pencil the cutting limit on each edge of the wood, and put a light behind the wing to see where you are cutting to.
8. Hollow the interior of the bowl.
9. Mount the bowl on a jam chuck to cut away the tenon and cut the final shape of the bottom.

Tips

- The faster you can turn, the smoother cutting the broken surface will feel. Stuart Batty has said that at about 2200 rpm, a broken surface will feel solid.
- Shorten the bevel (grind a second bevel on the heel) on gouges to minimize compression of the wood by the heel of the bevel—that is, to avoid leaving tool marks.
- Keep the tool rest as close to the work as possible.
- Use a negative-angle scraper to remove ridges and tool marks from hard woods. It must have a burr, so resharpen frequently.
- Always sharpen before taking the final cut.
- If a wall flexes under thumb pressure, it can't be cut again.
- Close-grained, nonbrittle woods such as maple, cherry or other fruitwoods, walnut, and sycamore are less likely to chip or split.

Examples of winged forms