Exploring Visual Complementarity

Dave Buchholz

One way to think of visual complementarity is a relationship in which two or more different elements improve or emphasize each other's qualities. The yin-and-yang symbol is an example that uses both color and shape. This concept can also be found in the use of negative space, which Binh Pho employed expertly by piercing his thin-walled vessels. I decided to explore complementarity by making two bowls with decorations that complement each other. I settled on carving the same design on each bowl but using color in a complementary manner.

Turning the bowls

I used 4"- (10cm-) diameter beech limbs to turn small endgrain bowls with an area of bark left near the rim. By making these bowls about 6" (15cm) tall, I could hollow them with a ⅝" (16mm) bowl gouge without having to set up any special hollowing tools. For each bowl, I cut a length of limb that was reasonably round and about 7" (18cm) long. The extra length allowed for a chucking tenon and room to part off the bowl later. It was important to select limbs that were close to round so the wall thickness in the area of the bark rim could be turned fairly uniform.

I needed to find the center of both ends of the limb to ensure the bark edge would remain close to symmetric in the final bowl (*Photo 1*). I used my shopmade center finder (see *sidebar*), whose concentric circles can be roughly lined up with the outer diameter of the limb to get a close approximation of the limb's center. Note that the center is not likely to be in the middle of the pith, since most limbs grow with more mass below center for support. Mark the center point on each end with an awl.

I mounted the limb on the lathe between centers and turned a tenon so I could remount the piece in my scroll chuck. With the tailstock brought up for added support, I used a bowl gouge to begin shaping the outside of the bowl (*Photo 2*). I used a detail gouge to clean up the surface, as shown in *Photo 3*. The base is left thicker to maintain adequate support for hollowing the bowl.

To hollow the bowl, I began with a Forstner bit to remove the center area and set the depth of the bowl's interior. A piece of blue painter's tape on the shaft of the bit showed the drilling depth (*Photo 4*). After the central hole was drilled, I used the bowl gouge to continue hollowing. Since this bowl was in endgrain

Mark turning centers

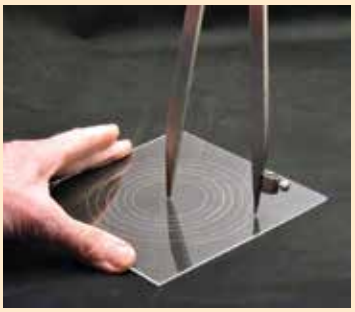
1

A center finder is useful for marking the turning centers on both ends of irregular branch wood.

Shopmade Center Finder

A center finder is a convenient tool for locating the effective center of an irregular object. Its concentric circles help you visually consider where to place the turning center, especially on the endgrain of out-of-round logs or branch wood. You can buy one, but it is easy to make your own.

Cut a 6" square of ¼"- (6mm-) thick clear plastic. After drilling a 1/16" (1.5mm) hole in the center, use a large compass with a metal point to scribe circles in the plastic. I found that holding the compass on a slant and rotating the plastic underneath gave the best scribe lines.



Turn outside profile

2 A bowl gouge handles the rough-shaping of the bowl's outside profile. The author chooses to leave a band of bark at the rim.

3 A detail gouge cleans up the wood surface. A skew could also be used, but the detail gouge may be easier for navigating curves.

Drill into endgrain

4 Drill to the desired inside depth with a Forstner bit held in a drill chuck in the tailstock. This hole will act as a starting point for endgrain hollowing.

orientation, the cutting was from center outward, toward the bowl wall (*Photo 5*). As the gouge went deeper into the bowl, vibration became more of a challenge, so I placed the long handle of the gouge against my right forearm to steady my grip (*Photo 6*). I find I can hollow to about 6" in this fashion.

After hollowing, I narrowed the outer base area to about ¾" (19mm) thick, knowing I would return the bowl to the lathe for finish-turning after drying. To dry the rough-turned bowl, I put it in a heavy paper bag on the floor of my heated basement shop. Since the bowl walls were about ⅜" (9.5mm) thick, it took just a month or two for the wood to dry. I have had good luck avoiding cracks by keeping the wall thickness uniform and the base and tenon relatively small.

When the bowl was dry enough to be finish-turned, I remounted it using a large cone center in the tailstock to keep it centered. Since the bowl was turned endgrain, there was less warping than with a side-grain bowl. The work was slightly off center, but having the opening of the bowl centered allowed me to hold the blank tightly in the chuck, even with some warpage. If you find the off-center wobble is too great, then reverse-mount the blank and true up the tenon first.

I used the detail gouge on the outside and the large bowl gouge on the inside to clean up the surfaces, which I then sanded to 400 grit. I find Abranet® abrasives work well, even if the wood is not completely dry, because they do not clog as quickly as do other abrasives. Although the use of branch wood leaves the pith in the bottom of the bowl, cracking is not usually a problem with limbs of this size.

Complementary embellishment

The fun part of making these bowls was the embellishing. For this study, I wanted to portray a plant that you might find underwater, with a wavy stem and alternating leaves. I also wanted the bowls to have complementary patterns—one with the background colored and the plants carved right through the paint and the other with the background uncolored and the plants carved and then colored.

I have found that India ink and fiber-reactive dyes work very well. The dyes I use are designed for tie-dyeing shirts but work well on any fibers, including wood. I dissolve dyes in water rather than alcohol because I find the final water-based colors to be more vibrant. In this case, I applied India ink to the outside of a bowl using a small foam ▸

Hollow the bowl

5 The author uses a bowl gouge to hollow this endgrain bowl. The tool cuts from center hole toward the outer wall.

6 Pressing the gouge's long handle against your right forearm helps reduce vibration and counteracts the "grabby" tendency that occurs when a tool is extended well beyond the toolrest.

brush (*Photo 7*). Two coats are usually sufficient. I then covered the India ink with varnish. The second bowl was processed so that the natural wood would remain as the background, so it received only the clear varnish, with no ink or dye underneath it (*Photo 8*).

I carved the plant patterns on the bowls with a reciprocating carver on a flexible shaft. I used small V- and U-shaped gouges for the stem and leaves, respectively (*Photos 9, 10*). This type of carver doesn't begin cutting until pressure is applied to the wood, which adds a measure of safety. Normally you would carve "downhill" (from large to small diameter), but for these shallow cuts with a sharp tool, I found I could cut uphill. If tearout becomes a problem, you could start the leaf from the stem going uphill, but then finish the cut by going downhill from the leaf tip, matching the uphill cut.

After carving the patterns on the natural-background bowl, I applied India ink to the stems and leaves with a small paint brush (*Photo 11*). Since the wood was already sealed with varnish, the ink tended to flow along only the uncoated carved surfaces. By holding the bowl at different angles, I could see if the ink had coated all the carved areas. I made sure to paint any uncoated areas, as they would have stuck out in the finished bowl. Any ink that accidentally got on the sealed surface could be removed easily with a little sanding after the ink had dried. After all the carving and painting, I applied a few more coats of varnish.

Complementary backgrounds

After sanding, the author applies base coats that will act as complementary backgrounds on the two bowls. One is India ink (black) and the other is varnish (clear). The bowls were turned as two separate items but are shown side by side to illustrate the author's process of creating complementarity.

Complementary foreground designs

The author carves patterns on the two bowls using a reciprocating carver on a flexible shaft. A quick upward scoop of a small U-shaped gouge easily creates the leaves.

Painting the leaves

The leaves on the natural-wood background bowl are painted black, to complement the black background of the other bowl, whose leaves are left uncolored.

Part off at the base

A thin parting tool is used to slightly undercut the bowl's base as the bowl is parted off the lathe.

Final thoughts

I parted the bowls from the lathe using a thin parting tool with a shallow flute at the cutting edge (*Photo 12*). This style of parting tool leaves smoother edges since it cuts rather than scrapes. I then completed the bottom with some sanding and several coats of varnish.

This technique is an easy way to use medium-sized branch wood to create attractive endgrain bowls. I enjoyed this study in visual complementarity and hope it inspires you to try your own explorations. ■

Dave Buchholz, a retired physicist, has been turning wood as a hobbyist for eighteen years. He enjoys trying new embellishing techniques. For examples of his work, visit adirondackinspiredturnings.com.