

Black is Back

If you're like me, you probably started turning wood with the feeling that you wanted to "show off the wood." You may still see that as your primary, or only emphasis. That's fine. (Think, for example, about Phil Brown's amazing, signature "flares".) That's pretty much all I've done to date, and I still find it of great importance. But I am also intrigued with the prospects of embellishments, and I aspire to colors, textures, carving, burning, and more. It's natural, after turning a number of "pure" pieces, to be interested in doing something different – something more artistic. In our second-ever MCW demo, we saw some amazing colored pieces by Doug Pearson. Ed Karch surprises us on a monthly basis with his imaginative augmentations of turned objects. In an earlier demonstration, Ed showed us pyrography and piercing. At our February meeting, he expanded our minds with many new techniques, including charring. I take this opportunity to highlight a topic that has intrigued me for some time – the color black.

Black pottery comes to us from early traditions in China, Greece, and Egypt -- later through Peru, Italy, Portugal, and Eastern Europe, among others. Early in the 20th century, Maria Martinez of the San Ildefonso Pueblo in New Mexico became world renowned for her modern

version of "black on black" pottery. (If you are not familiar with her work, look her up in Wikipedia, and Google some images.) Similar works also come from the neighboring Santa Clara Pueblo, from Mata Ortiz and Oaxaca in Mexico, and from Lithuania, Portugal, and elsewhere. Blackware represents an honored custom. Woodturners are now also following in this tradition, as evidenced by such shows as last year's "Woodturning in Basic Black" AAW exhibit (see www.woodturner.org/gallery/aaw_exhibits/Black/BasicBlack.htm). Molly Winton, a woodturner in Washington State, is achieving well-deserved recognition for her carving, burning, textures, and exquisite black-on-black pieces incorporating all these techniques (which begin, of course, with outstanding designs and perfectly-turned forms).



Cover image for AAW Exhibit "Woodturning in Basic Black"

"Why turn wood black?", you're probably thinking.

"Why not?" I would reply. Wood can be very beautiful on its own, and we treasure burls and spalting and grain patterns and contrasts between heart wood and sap wood, but it is also a working medium for artists with tools. A piece of wood is a blank canvas. Making it black emphasizes the form and subtle gradations of detail that vary with lighting and orientation. We see shape, as well as reflections and shadows. The subtleties catch our eyes. Black is not a single color but can carry shades of green, blue, purple, and brown. The wood can still present it's grain structure. Surface elements and textures stand out like never before. Plain woods with little inherent interest of their own can take on an array of new, attractive characteristics.

Black is a natural color for some woods. Ebony (*Diospyros ebenum*, and several other 'Diospyros' species) and African blackwood (a.k.a. "mpingo", *Dalbergia melanoxylon*) are traditional woods

prized for making furniture, flooring, carvings, knife handles, chess sets, pool cues, walking sticks, and musical instruments (such as clarinets, oboes and various “pipes”, piano keys, fingerboards, tuning pegs, etc). Woodturners use them for finials, pedestals, and inlays, among other things.

Unfortunately, these species are now endangered and very expensive. This does not mean that we, as woodturners, must do without black. There are many simple, practical, inexpensive ways to make common woods black, or to add black, to suit our needs. The problem is knowing how to select one, or several, of the many methods, for experimenting to find your own personal favorites. The purpose of this article is to encourage you to give ‘black’ a try by presenting some of these techniques so you are aware of them and can make an educated choice for how to begin. It is important to note that these methods result in substitutes, *not* in replacements, because ebony and African blackwood are very hard and dense (their heartwoods both sink in water), and they have other unique turning characteristics that will not be reproduced by artificial techniques.

I will briefly discuss black dyes, inks and markers, vinegar and steel wool, charring, black paint, black shoe polish, and woodburning (pyrography), as well as resists for defining the colored areas. You can probably think of others. Whole articles could be written about each topic – this will be just a quick introduction to some simple concepts. Play around and have fun with them. [Note: Some of the following information comes from the participants of the April 23, 2008 WoodCentral chatroom on this topic, hosted by Steve Russell -- the link is no longer active.]

Black dyes and markers Dyes are “in solution”. They do not involve pigments or colloids that cover the surface. They are best used on all-black pieces because they spread through the pores and can bleed into unexpected locations. When using dyes, the wood grain shows through clearly. Alcohol-based dyes will not raise the wood grain but it is reported that they may be less color fast than water-based dyes. Application is by any means you choose – brushes, rags, paper towels, immersion, etc.

A number of aniline dyes are available in craft stores with various carriers such as oil, water, or alcohol. You can add red or blue to the black to change its appearance. Once applied, they can be resuspended with like solvents, even after drying (not good), and they are reported to be toxic. One example is alcohol-based leather dyes such as Fiebings ‘USMC Black’, which can be obtained from Tandy or shoe repair stores. This is said by some to be “nasty stuff” for which a respirator and chemical-resistant gloves are needed. Others feel it is “no big deal.” You decide.



Molly Winton - with Fiebings

Water-based “clothing” dyes, such as RIT, are a lot safer and quite inexpensive. Silk dyes have been recommended. Water-based dyes will raise the grain, so you’ll want to raise it once first with water and sand it back before the application of the dye. These dyes may have a tendency to be more light fast.

There are some “metal complex” dyes out there, such as TransTint, that are said to be very color fast and may be worth investigating. These can be mixed with water or alcohol but are quite expensive. They advertise an “ebony black”.

Permanent, “archival” black markers act like dyes and can be used for small pieces or details. They are expensive and don’t work very well over large areas because of uneven application.

Inks India ink is a thin, colloidal suspension of carbon in water and is quite versatile. It can be airbrushed on, or simply brushed on or padded on with a cloth. Like dyes, it is best used on all-black pieces because it can bleed extensively. India inks often include shellac as a binder. One of the beauties of India ink is that after several coats, the carbon buildup can be burnished to a soft luster with a paper towel or a stone or a steel rod. (This doesn't work well with dyes.) You can choose to burnish some parts and not others to create subtle patterns. This could also be done before application of the ink to achieve a subtly different result.

"Drawing ink" can also be used. These are typically soluble dyes with shellac as a binder. They can be thinned with water and are typically permanent to light. (One brand is Windsor & Newton.) Several coats are generally required. Both of these inks react well under an oil finish and do not spread when the oil is applied.

Vinegar and steel wool The term "ebonizing" is traditionally associated with the use of iron and vinegar to make a solution that reacts chemically with the tannins in wood to darken it. (This has the same chemical basis of the historic iron-gall inks.) Resulting colors vary tremendously from wood to wood, typically ranging from brown to black. Oak, cherry, ash, butternut, and walnut are high in tannin. Tannic acid (in the form of tea) can be added to the wood first to enhance the effect, particularly in low-tannin woods. This method can produce interesting "dark" or "aged" effects in woods that don't blacken. This can be an effective technique, particularly with multiple coats, but not everyone is happy with the results.

The procedure involves soaking a piece of oil-free steel wool (or rusty nails) in vinegar (uncovered) for a few hours or days, depending on who you listen to (I recommend the latter). Filter or strain off the clear liquid and use it to "paint" the wood. The resulting color darkens as it oxidizes with oxygen in the air. The reaction is not instantaneous but should go to completion in a few minutes. Repeated applications may be necessary to achieve desired results. The solution soaks into end grain more than into side grain, so the result may be blotchy. Small pieces tend to look better than large pieces. This method can be combined with others as needed. Make only what you can use – it doesn't keep well. This color/stain can be removed with the application of lemon juice -- much as you can use the latter to clean the black stains off your hands that you get from touching the tool steel when turning wet tannic woods such as oak.

Charring Flaming a bowl or platter can produce a nice ebony color, but care must be taken on the heat, with frequent cooling cycles. Torches come in a wide range of sizes and shapes from the standard, familiar propane variety to tiny butane micro torches. It's good to have several sizes with adjustable flames. The larger versions are good for blackening large areas, while the small ones can be used to "paint on" black designs much like an artist would apply color with a brush. If you torch the surface that has fine detail, like beads with deep gullets, you have to use an adjunct to color the gullets because the fire will not penetrate these deep areas effectively. On textured surfaces it will burn the top and not the bottom of the texture, which can be attractive if done purposefully. Burning can also be used to darken, highlight, or remove the soft areas of growth rings. This can be very effective in coarse-grained woods like ash and oak. Ed Karch showed us that bleaching before burning can increase the contrast ratio. He also



demonstrated the use of “mud” as a resist to define patterns that will remain unburned. Charred areas may be brushed, burnished, waxed, and finished in many different ways.

Black paint Black gesso has an acrylic base and is quite thick, so it won't bleed through or let the grain show through, unless used as a thin wash. This has a very flat, heavy finish that can be cut through (sgraffito) but probably cannot be burnished.

Liberon makes a selection of “earth pigments” (including “vegetable black”) that are natural earth powders for coloring. They can be mixed with various carriers and do not dissolve but are held in suspension. They have been recommended by some artistic woodturners.

Black shoe polish Black shoe polish is a wax that can be used to fill open grain as a dark “highlight”, or as a general dark overcoat. If you want to put a finish over it, seal it first with a coat of shellac.

Woodburning (pyrography) A woodburning tool can be used with a variety of tips for small features, patterns, texture, and designs, but it is not appropriate for plain, large-area work. As noted above, it can be used to outline areas for sealing and defining areas to be colored by other means.

Resists If only a portion of the vessel is to be made black, a method is needed to define the extent of the black area. For some forms, very straight edges are important. Areas like rims, bands, and end grain are particularly susceptible to overflow or bleed through. Liquids can wick through the wood pores and come out in surprising places – even on the opposite side. One method constraining liquids is pyrography; another is the use of finishes. A burned line can seal pores and act as a barrier. Several well-dried coats of a finishing product will plug the pores and retard bleed through. Use unlike materials – for example, alcohol-based dyes might penetrate alcohol-based sealers (such as shellac, particularly if it includes stearic acid). A clay or ‘mud’ resist (to be removed later) can be applied in patterns to resist charring with a torch, as we saw in Ed Karch's February demo.



Unintentional resist action can be a disadvantage, as well. If the surface to be blackened by a liquid product has any residual wax or finish, the dye will not penetrate fully or evenly and can result in blotchy appearance. On the other hand, a dye may look (undesirably) different on side grain and end grain (blotchy again), and a partial sealer coat can help even this out. For this reason, plain, tight-grained woods are often selected for blackening. Clearly, experimentation, practice, and knowledge of your woods will improve performance.

A good method at a rim or boundary, if the black does not penetrate too deeply, is to re-turn after blackening, to produce a crisp new edge. (This takes planning ahead so as not to remove a needed chuck tenon or other method of support.) Purposely cutting through a blackened surface to reveal the wood underneath (with a tool or by sanding) is a nice way of adding patterns (sgraffito) or emphasizing textures.

Always use common sense. Things that work in one situation may not work in another. Follow all Safety Rules. If it feels wrong, it probably is; stop and rethink. Your Mileage May Vary